Leak Abatement in Romania

Location: City of Iasi
Type: Water delivery efficiency
Size: 60,000 m³ of water saved per year
Funding: Total: US$118,074
Private: US$71,250
Public: US$46,820
Objective: To develop, implement, and evaluate a water pipe leak-detection system.
Duration: 1999–2000
Scale: Urban

Summary

A water utility that was losing 30% of its daily production to leaking pipes teamed with a private environmental technology provider to pilot a pipeline leak-detection system. Three of the leaks detected with the new system accounted for losses of 60,000 m³ per year, or US$24,000. The pilot project demonstrated the value of private- and public-sector teaming for identifying cost-effective responses to energy inefficiencies. The success of the pilot project has paved the way for a systemwide US$40,000,000 leak-abatement program.

In-Country Principles That Attracted Nondonor Financing

- Capacity building and informed decision making

A key principle that helped attract private-sector financing was the commitment to creating and strengthening strong human and organizational capacity for sustainable and integrated water management, in both the public and private sectors.

Another important principle was the consideration of water as an economic, social, and environmental good, including acknowledgment of the full costs of water management and water services, and transparent, equitable, and sufficient allocation of those costs throughout society (through such means as tariffs, subsidies, and taxes).

Financing

Total project investment was US$118,074. A small United States (US) civil and engineering firm provided US$71,254 in private funds, and the remaining US$46,820 came from a United States Agency for International Development (USAID) EcoLinks grant.

Capital costs were US$20,000; technical assistance costs were US$98,074.

The Project

Regia Autonoma Judeteana de Apa-Canal Iasi (RAJAC), a local water utility company established by the Iasi City Council in 1991, is responsible for providing water to the city and for operating the municipal sewage system. It serves more than 550,000 inhabitants and 2,100 institutions with a 600-km distribution network. RAJAC loses about 16,000,000 m³, or 30%, of its water production annually, wasting potable water, treatment capacity, energy, and money.

As a first step in a proposed program to cut those water losses by at least half, RAJAC teamed with an American technology provider, Cavanaugh & Associates, using a USAID-sponsored EcoLinks grant, to develop, implement, and evaluate a pilot leak-detection and abatement program. RAJAC provided water-system maps, and Cavanaugh trained RAJAC personnel in the use of leak-detection equipment. The project team prepared a list of conservation measures to raise consumer awareness. Other utility companies were informed of project successes, paving the way for establishing a US$40,000,000 systemwide leak-abatement program.

The project increases the operating efficiency of the utility, and residential, commercial, and industrial sectors benefit from reduced water costs.

Technical Data

Technologies included Doppler leak-detection equipment, data loggers, and computer software. Local utility personnel are easily trained to operate the equipment, which is useful not

only for water utility companies, but also for district-heating enterprises and other large water-transportation networks.

Performance Data

Roughly US$24,000 and 60,000 m^3 of water are saved annually because of this pilot project. The payback period for the equipment during the pilot project was less than one year.

Potential savings of 8,000,000 m^3 and US$3,000,000 per year are expected once the US$40,000,000 infrastructure project is in place.

Consumer water conservation measures are promoted through media campaigns.

Discussions are underway to develop an autonomous company providing leak-detection systems to other water companies in Romania.

The project has generated interest in applying the leak-detection technology to the Iasi District Heating Company, and requests to demonstrate the technology in Bucharest, Poland, and Moldova have been received.

Participants and Roles

Cavanaugh & Associates teamed with RAJAC to conduct the pilot. Fluid Conservation Systems, the manufacturer of the leak-detection equipment, provided supplementary equipment training.

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